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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,725	10/19/2005	Takuji Maeda	0074057001	2043
7590 Randolph A Smith Smith Patent Office Suite 901 1901 Pennsylvania Ave N W Washington, DC 20006-3433			EXAMINER HESS, DANIEL A	
			ART UNIT 2876	PAPER NUMBER
			MAIL DATE 03/11/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/553,725

**Applicant(s)**

MAEDA ET AL.

**Examiner**

DANIEL A. HESS

**Art Unit**

2876

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12, 14 and 16 is/are rejected.
- 7) ☒ Claim(s) 13, 15 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 6/19/06: 10/19/05

### **DETAILED ACTION**

This action is responsive to applicant's filing of 10/19/2005, which has been entered into the electronic file of record.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayama (JP 11-191297, of record in the instant IDS) in view of Collani (WO 2006/045807 A2).

Katayama teaches or renders obvious a structure of independent buses for different memory blocks, which is necessary if Katayama's objective is to be realized, namely parallel memory access. As for a block size for a minimum unit of data crasing, it is generally understood in the art that memory is freed up in batches, not one digital word at a time.

Katayama fails to teach variable memory access speed.

In Collani (see abstract) a data system with a variable clock speed is presented. It follows naturally that the data variables which set the overall processor speed also control write speed, for the simple fact that everything that directly links to the processor (and this includes locally attached memories) marches to the beat of the clock. Slowing down the clock speed slows down

everything else and vice-versa. A write operation might include many smaller write interactions, and the time to wait between each of these smaller write interactions would depend on the clock.

In view of Collani's teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known variable processor speed as Collani teaches in Katayama's arrangement in order to avoid overheating when such a risk arises, and also allow for a tradeoff between power consumption and performance as the need arises.

Admittedly, a variable clock-speed is not what the applicant had in mind, but these claims do not elaborate on the meaning of 'speed mode.' Only the dependent claims, which are allowable as discussed below, do that.

#### ***Allowable Subject Matter***

Claims 13, 15 and 17 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art fails to teach or fairly suggest, in the context of all limitations in the corresponding independent claim, an arrangement wherein the memory controller performs, in parallel, writing with respect to said plurality of nonvolatile memory chips when the write speed mode stored in said host information memory is a high speed mode, and sequentially performs writing with respect to said plurality of nonvolatile memory chips when the write speed mode stored in said host information memory is a low speed mode.

Clearly Collani's version of a low speed mode and a high speed mode is entirely different, based on clock speed versus parallel mode/sequential mode differences.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL A. HESS whose telephone number is (571)272-2392. The examiner can normally be reached on 8:00 AM - 5:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel A Hess/  
Primary Examiner, Art Unit 2876  
3/10/2009